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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,131	01/28/2004	Richard Perego	RAMB-01049US2	3149

28554 7590 06/05/2007
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EXAMINER

VERBRUGGE, KEVIN

ART UNIT	PAPER NUMBER
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2189

MAIL DATE	DELIVERY MODE
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06/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/766,131

Applicant(s)

PEREGO ET AL.

Examiner

Kevin Verbrugge

Art Unit

2189

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29,31-40 and 47-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29,31-40 and 47-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/7/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 5/7/07 has been entered.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-29, 31-40, and 47-50 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-63 of copending Application No. 09/797099. Although the conflicting claims are not identical, they are not patentably distinct from each other because the differences are immaterial.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 10, 11, 13-20, and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2004/0221106 (the '106 publication) to Perego et al. in view of U.S. Patent 5,513,135 to Dell et al.

Regarding claims 1, 13, 20, and 26, the '106 publication shows the claimed invention with the exception of memory modules having a buffer device.

The claimed memory module is shown in Fig. 6, for example, as module 80.

The claimed connector interface includes the claimed first contact as contact 54 and the claimed second contact as contact 55.

The claimed first integrated circuit having memory is shown as integrated circuit 85, which has the claimed first and second storage cells as discussed in paragraph 45, for example.

The '106 publication does not include the claimed buffer device, but rather it has multiplexing logic that performs the claimed function of changing the accessibility of the contacts to the storage cells. In a first mode, when two memory modules are in use (Fig. 7), the multiplexing logic in the first module makes both sets of storage cells accessible from the first contact as claimed. In a second mode, when only one memory module is in use (Fig. 6), the multiplexing logic makes the first storage cell accessible from the first contact and makes the second storage cell accessible from the second contact as claimed (see paragraphs 47 and 48, for example).

Dell shows memory modules having a buffer device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use memory modules having a buffer device in the system of the '106 publication to isolate the memory devices on the memory modules from the rest of the system. This permits memory device development to proceed independent of memory controller development and also allows greater memory bus speeds and lower voltages to be used.

Regarding claim 10, the claimed elements are all required when the multiplexing logic is located outside of the memory integrated circuit (the "second case" as mentioned in paragraph 48).

Regarding claim 11, the claimed elements are obvious since synchronous dynamic memory was well-known at the time of the invention.

Regarding claim 14, the claimed circuitry is inherent in the buffer device.

Regarding claim 15, multiplexing is an obvious method of saving signal lines.

Regarding claim 16, simultaneity is possible when the designer is willing to use additional signal lines.

Regarding claims 17, 18, 27, and 28, the claimed elements of the buffer device are obvious circuitry elements in memory circuits to enhance operation.

Regarding claim 19, additional contacts and memories perform similarly to those mentioned above, since typically multiple bits are transferred together from multiple memory devices.

Allowable Subject Matter

Claims 2-9, 12, and 21-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if a terminal disclaimer is filed.

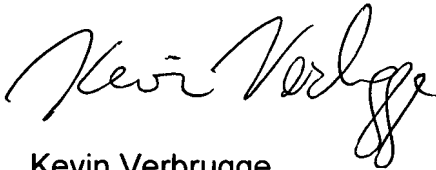
Art Unit: 2189

Claim 29, 31-40, and 47-50 would be allowable if a terminal disclaimer were filed.

Conclusion

Any inquiry concerning this Office action should be directed to the Examiner by phone at (571) 272-4214. Any response to this Office action should be labeled appropriately (including serial number, Art Unit 2189, and type of response) and mailed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, hand-carried or delivered to the Customer Service Window at the Randolph Building, 401 Dulany Street, Alexandria, VA 22313, or faxed to (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.



Kevin Verbrugge
Primary Examiner
Art Unit 2189